



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

July 29, 2010

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED AND ELECTRONIC MAIL**

Tracy Case  
Division Manager, Michigan Refining Division  
Marathon Petroleum Company, LLC  
1300 S. Fort  
Detroit, MI 48217

Re: Section 114 Letter Requiring Emissions Testing  
Marathon Petroleum Company, Detroit Refinery, Detroit, MI

Dear Mr. Case:

The U.S. Environmental Protection Agency (EPA) is currently investigating flare efficiency at petroleum refineries. EPA has determined that testing using passive Fourier transform infrared (PFTIR) technology to measure combustion efficiency of the Complex 3/4 Flare at the Marathon Petroleum Company (Marathon) refinery in Detroit, MI, is warranted. As such, please provide the information requested and conduct the tests in accordance with the procedures and deadlines identified in the Enclosures. As you know, the testing sought has been the subject of discussions between Marathon and EPA during the last few months. EPA is aware that Marathon has already commenced the PFTIR testing, and is in daily contact with Marathon to assure that the ongoing testing is consistent with the testing described herein.

Under 40 C.F.R. Part 2, Subpart B, you may assert a claim of business confidentiality for any portion of the submitted information. You must specify the page, paragraph, and sentence when identifying the information subject to your claim. Enclosure III specifies the assertion and substantiation requirements for business confidentiality claims. Marathon must submit all requested information under an authorized signature with the following certification:

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements

and information, including the possibility of fines or imprisonment pursuant to section 113(c)(2) of the Act, and 18 U.S.C. §§ 1001 and 1341.

We may use any information submitted in response to this request in an administrative, civil, or criminal action. This request is not subject to the Paperwork Reduction Act, 44 U.S.C. §§ 3501 et seq., because it seeks collection of information from specific individuals or entities as part of an administrative action or investigation. Failure to comply fully with this request for information may subject Marathon to an enforcement action under section 113 of the Act, 42 U.S.C. § 7413.

You should submit your written response to each request contained herein to:

Patrick W. Foley  
USEPA - Air Enforcement Division  
MC 2242-A, Room 2119C  
1200 Pennsylvania Ave., NW  
Washington, DC 20002

Please contact either Patrick W. Foley at (202) 564-7978, or Robert Parrish at (202) 564-6946, if you have any questions about this request for information. We thank you in advance for your cooperation.

Sincerely,



 Phillip A. Brooks, Director  
Air Enforcement Division

Enclosures

**Enclosure I**  
**EPA CAA Section 114 Letter to Marathon Refinery, Detroit, MI**

**CONTENTS OF SOURCE TEST REPORTS**

The Source Test Report shall be organized in the following manner:

**Introduction**

Background test report information pertinent to the test should be presented in this section. This information shall include, but shall not be limited to, the following:

- a: Name and address of the manufacturer of the unit tested;
- b: Name and address of the testing organization;
- c: Test dates, names of persons present during test, and location of test;
- d: Schematic drawings of the unit test, noting emission points, sampling sites, and stack cross sections, with sampling points labeled and dimensions indicated; and
- e: A brief discussion of the operating principles of the type of unit tested, including maximum production rate of the unit and operating parameters of any air pollution control device on the unit.

**Summary**

A summary of test findings pertinent to the evaluation of the unit with respect to the applicable emission standard should be presented in this section. This information shall include, but not be limited to, the following:

- a: A summary of emission rates found;
- b: Isokinetic sampling rates achieved; and
- c: The operating level of the unit and any other relevant process, fuel, or control device parameters monitored during the test.

**Procedures**

A description of the procedures used in the operation of the sampling train and unit during the tests should be presented in this section. The information shall include, but shall not be limited to, the following:



- a: A schematic drawing of the sampling devices used, with each component designated and explained in a legend; and
- b: A description of the method used to operate the sampling train and the procedure used to recover the samples collected.

#### Analytical Technique

A description of all analytical techniques used to determine the emissions from the source should be presented in this section.

#### Data and Calculations

All actual data collected and the actual calculations should be presented in this section. This information shall include, but not be limited to the following:

- a: All field data collected, including legible copies of field data sheets (raw data) and any transcribed or computer data sheets that might be relevant;
- b: Laboratory data, including blanks, tare weights, calibration data, quality assurance samples, and results of the analyses;
- c: All calculations used in the determinations of emission rates, process rates, or other factors relevant to the test results, compliance, etc.; and
- d: Explanations and calculations substantiating the determination of the number and the location of traverse points used during the test.

#### Chain of Custody

A listing of the chain of custody of the emission test samples should be presented in this section.

#### Appendix

This section shall include, as a minimum, calibration work sheets for sampling equipment.

#### Verification of Production Parameters

Reports, log sheets, strip chart recordings of all relevant operating parameters must be included.

All data sheets, strip charts, and print-outs must be sufficiently annotated or explained to make their intention and information clear and understandable.

**Enclosure II**  
**EPA CAA Section 114 Order to Marathon Refinery, Detroit, MI**

The following request for information applies to the use of passive Fourier transform infrared (passive FTIR) measurement technology to measure emissions of the compounds specified below, from the Complex 3/4 (CP Flare) at the Marathon refinery in Detroit, MI.

1. Within sixty (60) days of receipt of this letter, provide the following operating parameters, to the extent available, on an hourly average basis in an electronic file format (preferably Excel or some other format that can be imported to Excel) as a daily average for January 1, 2006 through date of receipt of this letter for the CP Flare:
  - a. Volumetric flow rates of total waste gas, purge gas and pilot gas to each flare in scfm;
  - b. Mass flow rate of total waste gas, purge gas and pilot gas to the flare in lb/hr;
  - c. Molecular weight of total waste gas, purge gas and pilot gas to the flare in lb/lb-mole;
  - d. Concentrations of all measured compounds going to each flare in mole percent or ppm, including but not limited to all compounds measured by any continuous emissions monitoring system and shall at a minimum include: carbon dioxide, carbon monoxide, oxygen, nitrogen, hydrogen, hydrogen sulfide, methane, ethane, propane, n-butane, i-butane, and C5+ hydrocarbons, ethylene, propylene, cis- and trans-butene, 1,3-butadiene, and acetylene.
  - e. Mass flow rate of steam to each flare in lb/hr;
  - f. Temperature of steam at flow measurement point in degrees F;
  - g. Net heating value of flare combustion zone for the flare in BTU/scf;
  - h. Net heating value of waste gas to the flare in BTU/scf; and
  - i. Flare tip exit velocity for the flare in ft/sec.
2. Within sixty (60) days of receipt of this letter, provide flare tip type (manufacturer and model), a diagram of the flare tip, and cross-sectional area of flow used to determine flare tip exit velocity for each flare in ft<sup>2</sup>.
3. Marathon shall test the CP Flare in accordance with the following test conditions set forth in the chart below. Marathon shall undertake 2 runs of each condition for Test Series A, B, and C, except that, in the event that, for any condition within each of these Test Series where (i) the combustion efficiency is 85 percent or greater, and (ii) the absolute difference in the combustion efficiency as between the first and second runs is greater than 5 percent, then Marathon shall undertake a third test run for that condition.

The first run for each condition in Test Series A, B, and C shall be of a 30 minute duration. The second run for each condition also shall be of a 30 minute duration except as follows. If Marathon so chooses, Marathon may average the combustion efficiency data in 10 minute intervals for each test condition in the first run. If all 3 averages are within 0.5 absolute percent of the 30 minute average, then Marathon may undertake the second run for that condition for only 20 minutes.



One 10 minute run of Test Series D, and one 15 minute run of Test Series E are required.

	<i>Test A</i>	<i>Test B</i>	<i>Test C</i>	<i>Test D</i>	<i>Test E</i>	<i>Test F</i>
<b>Material</b>	Base Load	Refinery Fuel Gas	Propane	Hydrogen	Hydrogen to Nitrogen Ratio	Long Term Stability Test
<b>Target Vent Gas Flow Rate (lb/hr)</b>	400	1600	1600	1700	1300	1600
<b>Target Vent Gas Molecular Weight (lb/lb-mole)</b>	18.4	17.9	31.8	16 (~30% H2) 14 (~40% H2) 12 (~50% H2)	18.1	17.9
<b>Projected S/VG ratio at Minimum Steam Rates<sup>1</sup></b>	A1 ~ 1.9	B1 ~ 0.47	C1 ~ 0.47	N/A	E1 ~ 0.6 <sup>2</sup>	NA
<b>Predicted S/VG ratio via API 521<sup>3</sup></b>	N/A (~ 0.4)	N/A (~ 0.4)	N/A (~ 0.49)	N/A (~ 0.33)	N/A (~ 0.4)	N/A (~ 0.4)
<b>S/VG Ratio<sup>4</sup></b>	A2 ~ 2.0	B2 ~ 0.8	C2 ~ 0.8	D1 ~ 5 (30% H2)	E2 ~ 1.0 (S/CG ~0.5, CZNHV ~150 BTU/scf)	F1 ~ 1.0 <sup>5</sup>
<b>S/VG Ratio</b>	A3 ~ 2.2	B3 ~ 1.0	C3 ~ 1.0	D2 ~ 3 (30% H2)	E3-E6 – Various N/H ratios	
<b>S/VG Ratio</b>	A4 ~ 2.4	B4 ~ 1.2	C4 ~ 1.2	D3 ~ 1 (30% H2)		
<b>S/VG Ratio</b>	A5 ~ 2.6	B5 ~ 1.4	C5 ~ 1.4	D4 ~ 5 (40% H2)		
<b>S/VG Ratio</b>	A6 ~ 2.8	B6 ~ 1.6	C6 ~ 1.6	D5 ~ 3 (40% H2)		
<b>S/VG Ratio</b>	A7 ~ 3.0	B7 ~ 1.8	C7 ~ 1.8	D6 ~ 1 (40% H2)		
<b>S/VG Ratio</b>	A8 ~ 4.0	B8 ~ 2.0	C8 ~ 2.0	D7 ~ 5 (50% H2)		
<b>S/VG Ratio</b>	A9 ~ 5.0	B9 ~ 3.0		D8 ~ 3 (50% H2)		
<b>S/VG Ratio</b>	A10 ~ 6.0	B10 ~ 4.0		D9 ~ 1 (50% H2)		

4. Marathon must run the test for each condition even if the test condition results in low efficiency that may indicate that permit or regulatory limits are violated. Marathon may

<sup>1</sup> Calculated as Minimum Cooling Steam (600 lb/hr) / Projected Vent Gas Flow Rate

<sup>2</sup> Test E will be performed at a set steam rate with varying hydrogen to nitrogen ratios.

<sup>3</sup> Calculated using API 521 olefin/aromatic linear relationship of  $S/VG = 0.0067 (MW) + 0.275$ . Only tested if above minimum steam condition in series 1.

<sup>4</sup> Testing at progressively higher S/VG ratios will continue until a 75% or lower combustion efficiency is achieved. Subsequent data points beyond this CE result will not be collected.

<sup>5</sup> Test F will be performed under the same conditions each day at Test B conditions and an S/VG of 1.0.

discontinue a test run after collection of at least 10 minutes of valid data that shows a CE of 75 percent or less or visible emissions extending more than one flame length away from the flame, if Marathon, in both the preliminary data submittal and final report, reports the results of such runs as a valid run and bases the numeric results on the 10 minutes of valid data. For the purposes of this test, transient smoke that occurs only within the flame zone shall not be considered visible emissions. Marathon may discontinue any run if Marathon believes the flare flame has been snuffed. Such snuffed runs shall be considered valid runs and shall be reported as zero (0) CE in both the preliminary data submittal and final report.

5. Marathon may also discontinue testing based on safety concerns. However, if Marathon discontinues testing based on safety concerns, Marathon shall immediately notify Robert Parrish by telephone at 202-564-6956, and by e-mail at [parrish.robert@epa.gov](mailto:parrish.robert@epa.gov) of any testing discontinuance. Within 24 hours of the discontinuance, Marathon shall provide EPA in writing a detailed explanation of the conditions that warranted the discontinuance. In the event of a testing discontinuance, Marathon shall make its best efforts to resume testing as soon as is practicable.
6. Marathon shall complete the source test under the specified operating conditions and where not specified under normal, representative operating conditions within thirty (30) days of the date of this letter.
7. Marathon shall submit the results of the test within thirty (30) days of completing the source test in a Source Test Report organized in accordance with Enclosure I and the report shall include all of the information required to be in the protocol. Marathon shall describe all assumptions, calculations, and measured data for each calculated value. Marathon shall provide all data recorded during the test on shortest averaging period of passive FTIR measurements in electronic format. Marathon shall include in the test report results for each 30, 20, and 10 minute run: combustion efficiency, and the concentration, emission rate, and destruction efficiency of non-methane/non-ethane organics, and each compound listed above in 1.d., each in ppmvd, pounds per hour (lb/hr) and tons per year (tpy).



**Enclosure III**  
**EPA CAA Section 114 Letter to Marathon Refinery, Detroit, Michigan**

**Confidential Business Information**

You may assert a business confidentiality claim covering all or part of the information you provide in response to this information request for any business information entitled to confidential treatment under Section 114(c) of the Clean Air Act (the Act), 42 U.S.C. § 7414, and 40 C.F.R. Part 2, subpart B. Under Section 114(c) of the Act, you are entitled to confidential treatment of information that would divulge methods or processes entitled to protection as trade secrets. Under 40 C.F.R. Part 2, subpart B, business confidentiality means “the concept of trade secrecy and other related legal concepts which give (or may give) a business the right to preserve the confidentiality of business information and to limit its use or disclosure by others in order that the business may obtain or retain business advantages it derives from its rights in the information.” See 40 C.F.R. § 2.201(e).

The criteria EPA will use in determining whether material you claim as business confidential is entitled to confidential treatment are set forth at 40 C.F.R. §§ 2.208 and 2.301. These regulations provide, among other things, that you must satisfactorily show that: (1) the information is within the scope of business confidentiality as defined at 40 C.F.R. § 2.201(e), (2) that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, (3) the information is not and has not been reasonably obtainable by legitimate means without your consent, and (4) the disclosure of the information is likely to cause substantial harm to your business’s competitive edge. See 40 C.F.R. § 2.208 (a)-(d). Emission data, as defined at 40 C.F.R. § 2.301(a)(2), is expressly not entitled to confidential treatment under 40 C.F.R. Part 2, subpart B. See 42 U.S.C. § 7414(c); 40 C.F.R. § 2.301(e).

Information covered by a claim of business confidentiality will be disclosed by EPA only to the extent, and by means of the procedures, set forth in Section 114(c) of the Act and 40 C.F.R. Part 2, subpart B. EPA will construe your failure to furnish a business confidentiality claim with your response to this information request as a waiver of that claim, and the information may be made available to the public without further notice to you.

To assert a business confidentiality claim, you must place on (or attach to) all information you desire to assert as business confidential either a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as “trade secret,” “proprietary,” or “company confidential” at the time you submit your response to this information request. Allegedly confidential portions of otherwise non-confidential documents should be clearly identified, and may be submitted separately to facilitate identification and handling by EPA. You should indicate if you desire confidential treatment only until a certain date or until the occurrence of a certain event.

In addition, EPA is providing you notice that if you assert a claim of business confidentiality for information you provide in response to this information request, EPA will determine whether such information is entitled to confidential treatment, pursuant to 40 C.F.R. Part 2, subpart B. Accordingly, after EPA’s receipt of your business confidentiality claim, you



will receive a letter inviting your comments on the following questions:

1.                   What specific portions of the information are alleged to be entitled to confidential treatment? Specify by page, paragraph, and sentence when identifying the information subject to your claim.
2.                   For what period of time do you request that the information be maintained as confidential, e.g., until a certain date, until the occurrence of a specified event, or permanently? If the occurrence of a specific event will eliminate the need for confidentiality, specify that event. Additionally, explain why the information should be protected for the time period you've specified.
3.                   What measures have you taken to protect the information claimed as confidential from undesired disclosure? Have you disclosed the information to anyone other than a governmental body or someone who is bound by an agreement not to disclose the information further? If so, why should the information still be considered confidential?
4.                   Is the information contained in any publicly available material such as the Internet, publicly available databases, promotional publications, annual reports, or articles? Is there any means by which a member of the public could obtain access to the information? Is the information of a kind that you would customarily not release to the public?
5.                   Has any governmental body made a determination as to the confidentiality of the information? If so, please attach a copy of the determination.
6.                   For each category of information claimed as confidential, explain with specificity whether disclosure of the information is likely to result in substantial harm to your competitive position. Explain the specific nature of those harmful effects, why they should be viewed as substantial, and the causal relationship between disclosure and such harmful effects. How could your competitors make use of this information to your detriment?
7.                   Is there any other explanation you deem relevant to EPA's determination of your business confidentiality claim that is not covered in the preceding questions? If so, you may provide such additional explanation.

See 40 C.F.R. § 2.204(e)(4). When you receive such a letter, you must provide EPA with a written response within the number of days set forth in the letter. EPA will construe your failure to furnish timely comments as a waiver of your confidentiality claim, consistent with 40 C.F.R. § 2.204(e)(1).